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L13: Entry 7 of 11

File: USPT

Nov 5, 1996

US-PAT-NO: 5572421

DOCUMENT-IDENTIFIER: US 5572421 A

TITLE: Portable medical questionnaire presentation device

DATE-ISSUED: November 5, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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US-CL-CURRENT: 705/3; 705/2

## CLAIMS:

What is claimed is:

1. For use with a hand-held medical-history-taking device, the method of reporting which particular anatomical systems, among a plurality of candidate anatomical systems, are associated with at least one health symptom, responsive to information supplied by the patient, comprising the steps of:

(a) providing question storage means in said history-taking device storing a plurality of questions to be asked of a medical patient;

(b) providing answer storage means in said history-taking device for storing a plurality of answers obtained from said patient and respectively associated with said questions;

(c) providing, first list storage means in said history-taking device storing a first list identifying, for each of said plurality of candidate anatomical systems, at least one of said symptoms as being associated with said anatomical system;

(d) providing second list storage means in said history-taking device storing a second list identifying, for each of said health symptoms, at least one of said questions as being associated with said health symptom;

(e) causing said history-taking device to consult said question storage means to present a selected sequence of said questions to said patient, causing said history-taking device to solicit a respective answer to each of said questions of said sequence, and causing said history-taking device to store each of said answers in said answer storage means;

(f) causing said history-taking device to select, in turn, each of said plurality of candidate anatomical systems, and causing said history-taking device to consult said first list storage means to determine which health symptoms are associated with said selected anatomical system;

(g) causing said history-taking device to select, in turn, each of said health symptoms determined in the previous step, and causing said history-taking device to consult said second list storage means to determine which questions are associated with said selected health symptom;

(h) causing said history-taking device to select, in turn, each of said questions determined in the previous step, and causing said history-taking device to consult said answer storage means to determine whether the stored answer associated with that question is non-negative; and

(i) if said stored answer is non-negative, causing said history-taking device to produce printer signals to cause an external printer to present in a printed report a report element associating said selected anatomical system with said selected health symptom.

2. The method of claim 1 wherein said step (h) of causing said history-taking device to consult said answer storage means further comprises the steps of:

causing said history-taking device to retrieve said stored answer; and

causing said history-taking device to determine that said stored answer is non-negative if said stored answer corresponds to "Yes" or "Not Sure".

3. The method of claim 1 further comprising the step of:

(j) once a non-negative response to any question associated with said selected health symptom has caused a report element associating said selected anatomical system with said selected health symptom to be presented, causing said history-taking device to inhibit further selection of questions associated with the selected health symptom and instead to select in turn a next available health symptom which is associated with said selected anatomical system.

4. For use with a hand-held medical-history-taking device, the method of reporting which particular members of a first subject-matter category among a plurality of candidate members of said first subject matter category, are associated with at least one member of a second subject matter category, at least one of said subject matter categories diagnostically indicated by information supplied by the patient, comprising the steps of:

(a) providing question storage means in said history-taking device storing a plurality of questions to be asked of a medical patient;

(b) providing answer storage means in said history-taking device for storing a plurality of answers obtained from said patient and respectively associated with said questions;

(c) providing first list storage means in said history-taking device storing a first list identifying, for each of said plurality of candidate members of said first subject-matter category, at least one member of said second subject-matter category as being associated with said member of said first subject-matter category;

(d) providing second list storage means in said history-taking device storing a second list identifying, for each of said members of said second subject matter category, at least one of said questions as being associated with said member of said second subject-matter category;

(e) causing said history-taking device to consult said question storage means to present a selected sequence of said questions to said patient, causing said history-taking device to solicit a respective answer to each of said questions of said sequence, and causing said history-taking device to store each of said answers in said answer storage means;

(f) causing said history-taking device to select, in turn, each of said plurality of members of said first subject-matter category, and causing said history-taking device to consult said first list storage means to determine which members of said second subject-matter category are associated with said selected member of said first subject-matter category;

(g) causing said history-taking device to select, in turn, each of said members of second subject-matter category determined in the previous step, and causing said history-taking device to consult said second list storage means to determine which questions are associated with said selected member of said second subject-matter category;

(h) causing said history-taking device to select, in turn, each of said questions determined in the previous step, and causing said history-taking device to consult said answer storage means to determine whether the stored answer associated with that question is non-negative; and

(i) if said stored answer is non-negative, causing said history-taking device to produce printer signals to cause an external printer to present in a printed report a report element associating said selected member of said first subject-matter category with said selected member of said second subject-matter category.

5. A hand-held medical-history-taking device adapted for reporting which particular anatomical systems, among a plurality of candidate anatomical systems, are associated with at least one health symptom, responsive to information supplied by the patient, comprising:

(a) question storage means storing a plurality of questions to be asked of a medical patient;

(b) answer storage means for storing a plurality of answers obtained from said patient and respectively associated with said questions;

(c) first list storage means storing a first list identifying, for each of said plurality of candidate anatomical systems, at least one of said health symptoms as being associated with said anatomical system;

(d) second list storage means storing a second list identifying, for each of said health symptoms, at least one of said questions as being associated with said health symptom;

(e) means for consulting said question storage means to present a selected sequence of said questions to said patient, soliciting a respective answer to each of said questions of said sequence, and storing each of said answers in said answer storage means;

(f) means for selecting, in turn, each of said plurality of candidate anatomical systems, and consulting said first list storage means to determine which health symptoms are associated with said selected anatomical system;

(g) means for selecting, in turn, each of said health symptoms determined to be associated with said selected anatomical system, and consulting said second list storage means to determine which questions are associated with said selected health symptom;

(h) means for selecting, in turn, each of said questions determined to be associated with said selected health symptom, and consulting said answer storage means to determine whether the stored answer associated with that question is non-negative; and

(i) means for producing printer signals to cause an external printer to present in a printed report a report element associating said selected anatomical system with said selected health symptom, if said stored answer is non-negative.

6. The apparatus of claim 5 wherein said means (e) for consulting said answer storage means further comprises:

means for retrieving said stored answer; and

means for determining that said stored answer is non-negative if said stored answer corresponds to "Yes" or "Not Sure".

7. The apparatus of claim 5 further comprising:

(j) means for inhibiting further selection of questions associated with the selected health symptom and instead selecting in turn a next available health symptom which is associated with said selected anatomical system, once a non-negative response to any question associated with said selected health symptom has caused a report element associating said selected anatomical system with said selected health symptom to be presented.

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L12: Entry 6 of 8

File: USPT

Jan 11, 2000

US-PAT-NO: 6014630

DOCUMENT-IDENTIFIER: US 6014630 A

TITLE: Customized system for providing procedure-specific patient education

DATE-ISSUED: January 11, 2000

## INVENTOR-INFORMATION:

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US-CL-CURRENT: 705/3; 705/2

## CLAIMS:

We claim:

1. A system for producing individualized patient educational documents for patients about to undergo medical procedures, such as surgery, said documents including data relating to said medical procedure to be undergone, the medical facility to be used, and the responsible physician, said system including  
  
a computer having a medical procedure database, a medical facility database, and a physician database,  
  
said medical procedure database storing data about a plurality of medical procedures,  
  
said medical facility database storing data about how said medical procedures are carried out at at least one medical facility,  
  
said physician database storing data about how individual physicians vary said medical procedures,  
  
manual entry means associated with said computer for entering data about a prospective patient and for selecting from said databases said medical facility, said medical procedure and said physician to be used for said patient,  
  
software in said computer for taking from said databases data about said medical procedure to be undergone, said medical facility to be used, and said responsible physician, and organizing a document providing information for said patient about the said medical procedure said patient is about to undergo, and  
  
a printer associated with said computer for printing said document,  
  
whereby said patient is advised in writing as to what to anticipate and what is expected of him.
2. A system as set forth in claim 1 including means for adding instructions to said document, prior to printing said document, said instructions varying information for said patient in the data being printed.
3. A system as set forth in claim 1 in which one of said databases includes pre-procedure and post-procedure instructions, and said system includes means for incorporating said instructions in said document.

4. A system as set forth in claim 3 in which said pre-procedure instructions includes specifications for pre-procedure tests.
5. A system as set forth in claim 1 including causing that data from said medical procedure database, said medical facility database, and said physician database to be included in said document.
6. A system as set forth in claim 1 in which said medical facility database stores data about how said medical procedures are carried out at a plurality of medical facilities.
7. A system as set forth in claim 1 in which said data about a prospective patient includes said patient's age and sex, and said medical procedures stored in said medical database vary depending upon age and/or sex.
8. A system as set forth in claim 1 in which one of said databases includes data about pre-procedure tests, and in which said manual entry means is usable to select particular ones of said tests, causing said computer to incorporate said selected test in said document.
9. A system as set forth in claim 8 including means for incorporating in said document times and places of said selected tests.
10. A system as set forth in claim 1 including a default means in said computer which, in the event no specific instructions are given in a particular instance to change the data about said medical procedure or about said physician's instructions, causes the document to contain said medical procedure and said physician's instructions.
11. A system for producing individualized patient educational documents for patients about to undergo medical procedures, such as surgery, said documents including data relating to said medical procedure to be undergone, the medical facility to be used, and the responsible physician, said system including  
  
a computer having one or more of the following databases: a medical procedure database, a medical facility database, and a physician database,  
  
said medical procedure database storing data about a plurality of medical procedures,  
  
said medical facility database storing data about how said medical procedures are carried out in at least one medical facility,  
  
said physician database storing data about how individual physicians vary said medical procedures,  
  
manual entry means associated with said computer for selecting at least one of said databases,  
  
software in said computer for taking selected data from said selected databases and organizing a document providing information for a patient about said medical procedure said patient is about to undergo and about said medical facility, said software including a default procedure requiring that said document include at least data on said medical facility and on said medical procedure, and  
  
a printer associated with said computer for printing said document,  
  
whereby said patient is advised in writing as to what to anticipate and what is expected of him.
12. A system as set forth in claim 11 including means causing all necessary data from said databases to be included in said document.
13. A system as set forth in claim 11 including means for adding specialized instructions to said document, prior to printing said document.
14. A system as set forth in claim 11 in which said computer includes a test database storing data about pre-procedure tests, whereby said manual entry means can be used to select tests from said pre-procedures and incorporate said pre-procedures in said document.

15. Apparatus for preparing patient documents which provide a particular patient with an individualized patient information document relating to a prospective medical procedure, including

a computer having a database including templates of data on a plurality of medical procedures and templates of data on variations made to said medical procedures by particular doctors,

a monitor associated with said computer, said computer being programmed to determine whether or not (1) that the user has specified said patient, (2) that the user has specified said medical procedure to be performed and the physician in charge of performing said medical procedure, and (3) that the user has specified any modifications in said templates of data for said prospective medical procedure as varied by said particular physician,

software in said computer for formatting a patient document incorporating said templates,

a printer associated with said computer for printing said patient document as so formatted

means for changing said patient document before printing to make changes specific to said patient, and

said computer programmed with a default setting which, if no changes are made to said patient document, causes said patient document to be formatted without modification of said templates for said medical procedure and said physician.

16. Apparatus for preparing patient documents which provide a particular patient with an individualized patient information document relating to a prospective medical procedure, including

a computer having a database including templates of data on a plurality of medical procedures and templates of data on variations made to said medical procedures by particular doctors,

a monitor associated with said computer, said computer being programmed to determine whether or not (1) that the user has specified said patient, (2) that the user has specified said medical procedure to be performed and the physician in charge of performing said medical procedure, and (3) that the user has specified any modifications in said templates of data for said prospective medical procedure as varied by said particular physician,

software in said computer for formatting a patient document incorporating said templates,

a printer associated with said computer for printing said patient document as so formatted, and

said computer programmed not to print the patient document if the user has failed to indicate whether or not modifications to said templates should be made.

17. Apparatus for preparing patient documents which provide a particular patient with an individualized patient information document relating to a prospective medical procedure, including

a computer having a database including templates of data on a plurality of medical procedures and templates of data on variations made to said medical procedures by particular doctors,

a monitor associated with said computer, said computer being programmed to determine whether or not (1) that the user has specified said patient, (2) that the user has specified said medical procedure to be performed and the physician in charge of performing said medical procedures, and (3) that the user has specified any modifications in said templates of data for said prospective medical procedure as varied by said particular physician,

software in said computer for formatting a patient document incorporating said templates,

a printer associates with said computer for printing said patient document as so formatted, and

said database including templates storing procedures used in differing medical facilities, said computer is programmed to require the use to identify the medical facility to be used, and the said template for said medical facility is included in the formatting of said patient document.

18. Apparatus for preparing patient documents which provide a particular patient with an individualized patient information document relating to a prospective medical procedure, including

a computer having a database including templates of data on a plurality of medical procedures and templates of data on variations made to said medical procedures by particular doctors,

a monitor associated with said computer, said computer being programmed to determine whether or not (1) that the user has specified said patient, (2) that the user has specified said medical procedure to be performed and the physician in charge of performing said medical procedure, and (3) that the user has specified any modification in said templates of data for said prospective medical procedure as varied by said particular physician,

software in said computer for formatting a patient document incorporating said templates,

a printer associated with said computer for printing said patient document as so formatted, and

said computer is programmed to require identification of said patient's age and sex, and said templates of medical procedures include said templates which incorporate said medical procedures which differ depending upon said age and/or sex.

19. A method of preparing a patient document which provides a particular patient with an individualized document relating to the patient's prospective medical procedure, including the steps of

storing information in a computer describing various medical procedures, the requirements of the medical facility to be used for said medical procedures, and the responsible doctor's variations of said medical procedures,

programming the computer (a) to receive information from the user about the patient to be treated, said medical procedures, (b) to select stored information about said medical procedures, said requirements of the medical facility, said responsible doctor's variations of said medical procedures, and said responsible doctor to perform said medical procedures, and (c) to format a related document incorporating said procedures to conform to said responsible doctor's said variations and to conform to said requirements of said medical facility, and (d) to print said document, and

thereafter keying into said computer patient data, identification of the medical procedure to be performed and of the doctor in charge, and printing out said document.

20. The method of claim 19 in which said information as to said patient includes said patient's age and sex, said stored data about medical procedures includes data as to variations in said medical procedures with said age and sex of said patient, and said computer is programmed to select said medical procedure for said patient's age and sex, and including the step of keying in said patient's age and sex.